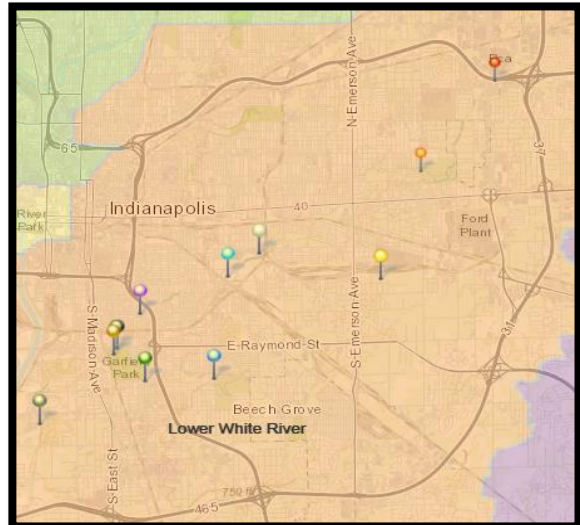
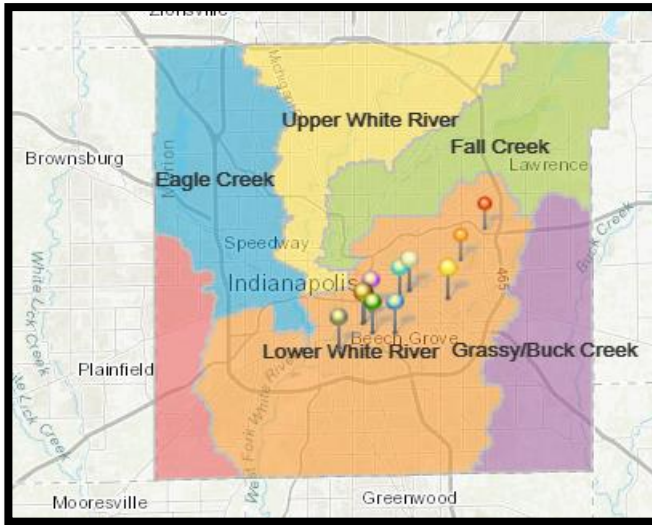


2023 Pleasant Run/Bean Creek Sampling Summary

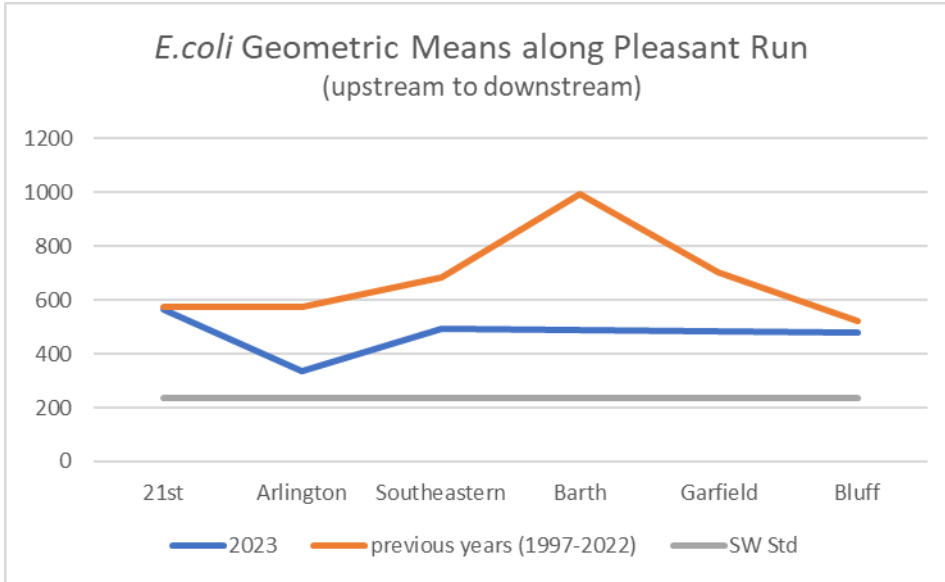
The Pleasant Run/Bean Creek sampling route is located within the Lower White River watershed and includes sites along Bean Creek and Pleasant Run. The ambient sampling route consists of 9 sites that are sampled 5 times per month year-round, plus an additional 2 sites for quarterly chemical sampling. Macroinvertebrate sampling occurs once a year at 6 sites. Sampling results for 2023 were assessed by looking at trends and applicable surface water quality standards. These water quality standards are based on the Indiana Administrative Code (327 IAC 2-1-6) and parameters are considered “out of range” if the detected level exceeds that determined by the IAC.



SITE NAME	COORDINATES
Pleasant Run @ 21 st St	39.797472, -86.042556
Pleasant Run @ Arlington Ave	39.775917, -86.064333
Bean Creek @ Orange St	39.752056, -86.075139
Pleasant Run @ Southeastern Ave	39.758167, -86.107611
Bean Creek @ Keystone Ave	39.729333, -86.120944
Pleasant Run @ Barth Ave	39.744111, -86.140944
Pleasant Run @ Garfield Park	39.736167, -86.147528
Bean Creek @ Garfield Park	39.735028, -86.148167
Pleasant Run @ Bluff Rd	39.727861, -86.167778
Pleasant Run @ Prospect St	39.752608, -86.117583
Bean Creek @ Shelby St	39.728917, -86.1395

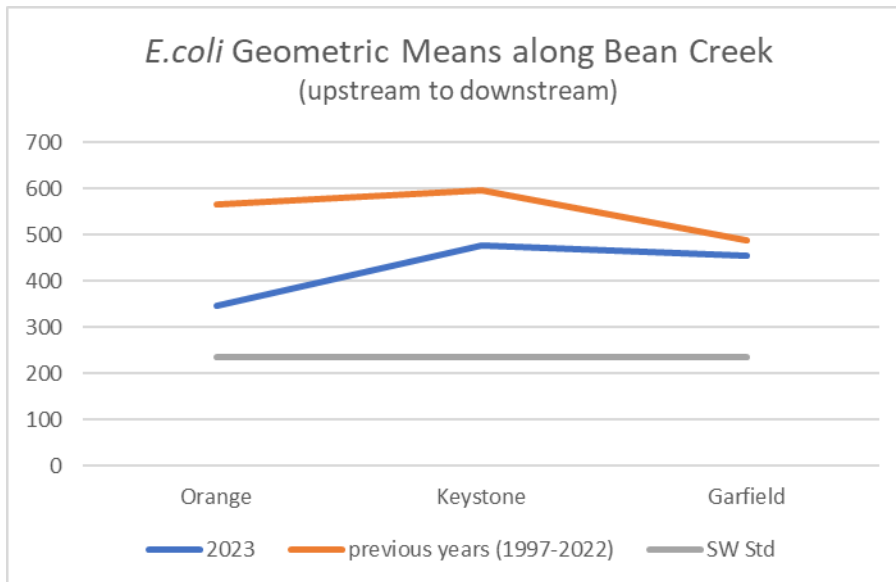
Ambient *E. coli* Sampling

In 2023, the Pleasant Run/Bean Creek route was sampled 60 times and included 511 total *E. coli* samples (occasionally samples are unable to be collected due to road closures, bridge construction, frozen stream, etc.). Results are then compared to the recreational surface water standard of 235 MPN/100 ml. *E. coli* is an indicator of raw sewage and most of the sites on this route are located within the Indianapolis' Combined Sewer Area. Combined sewers dump untreated sewage into the creeks during rain events since the sewer lines and storm lines are shared.



SITE	% EXCEED STD (2023)
21 st	81.7
Arlington	66.1
Southeastern	74.1
Barth	75
Garfield	64.4
Bluff	70.2

E. coli levels are consistently elevated above the recreational standard along Pleasant Run due to the 49 combined sewer outfalls located along the stream. However, levels detected in 2023 are lower than last year and compared to the average of previous years.



SITE	% EXCEED STD (2023)
Orange	60.7
Keystone	75
Garfield	73.2

E. coli levels are consistently elevated above the recreational standard along Bean Creek due to the 3 combined sewer outfalls located along the stream. However, similarly to Pleasant Run, levels are lower than previous years.

Ambient Chemical Sampling

Chemical samples are completed three times annually in March, July, and November at all nine sites, plus two additional sites at Prospect and Shelby streets. However, there were three missing samples due to road work and dry conditions. During 2023 there were eleven cases of ammonia detected above IAC standards. Sources of ammonia include fertilizer runoff, sewage contamination, and natural bacterial processes. Additionally, high levels of copper were found at two sites during the month of November.

It should also be noted that although levels never exceeded IAC water quality standards, there have been several samples that showed low levels of volatile organic chemicals (VOCs) at the 21st St. site over the years and most of the Bean Creek site this year that may warrant further study. The figures below show the change of levels of Vinyl Chloride and cis-1,2-Dichloroethylene at the 21st St. sampling site. and the levels of all VOCs detected at the Bean Creek sites throughout 2023.

Table 1: Number and percentage of samples from Pleasant Run/Bean Creek that were above IAC standards.

Surface Water Parameter	Occurrences of Out of Range Values, 2023	% of Samples Out of Range, 2023
Chloride	1	3
Ammonia	11	37
VOCs	0	0
Heavy Metals	2	7

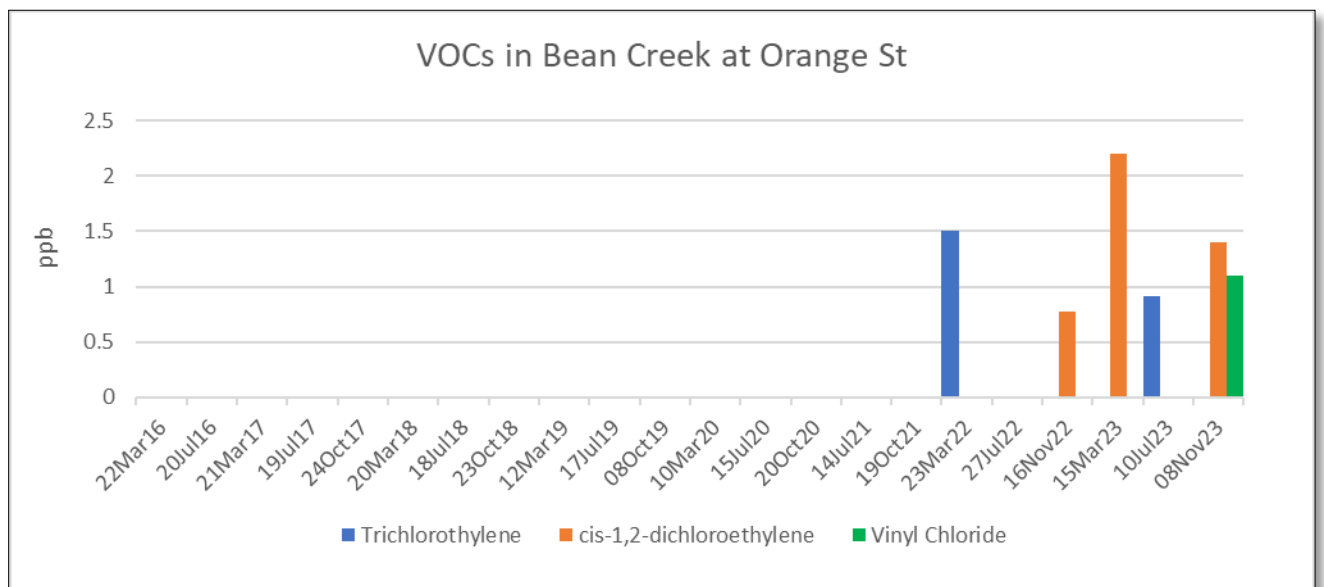


Figure 1: Volatile organic compounds are being detected in Bean Creek at this site, possibly from disturbed soil at upstream construction site. This case was referred to the Indiana Department of Environmental Management in January 2024.

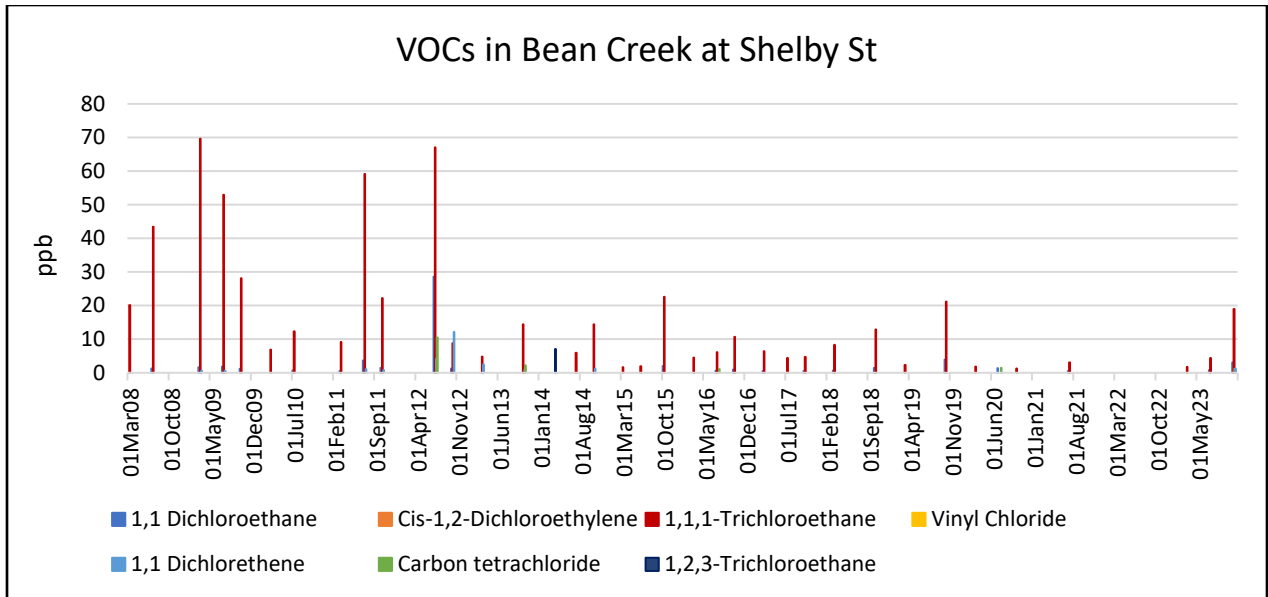


Figure 2: Soil contamination had been found at 1146 Nelson Ave. Remediation was installed in 2010 to reduce the impact on Bean Creek. Levels are lower but still monitored.